Responsiveness Summary

Overview

This Responsiveness Summary contains the Agencies' responses to public comments on the revised Proposed Plan and the original Proposed Plan for a Cleanup of Pit 9 at the Radioactive Waste Management Complex (RWMC), Idaho National Engineering Laboratory (INEL). This document is divided into two parts. Part I addresses comments that were received on the revised Proposed Plan. The Agencies' responses to the comments in Part I were written based on the information available at the time the revised Proposed Plan was issued. In contrast, Part II addresses those comments that were received on the original Proposed Plan. **The responses in Part II, in particular those that address technical and regulatory issues, have been written, based on the information available at the time the original Proposed Plan was issued.** The decision in this Record of Decision (ROD) is based on the public comments on both the original Proposed Plan and the revised Proposed Plan.

The revised Proposed Plan was released on October 16, 1992. A public comment period began on October 22, 1992, and was scheduled to end November 21, 1992. However, a request for an extension of the public comment period, submitted during the original period, was granted, thus extending the close of the public comment period to December 21, 1992. The revised Proposed Plan recommended that certain contaminated materials be removed from Pit 9 and treated using a physical separation/chemical extraction/stabilization process.

The revised Proposed Plan was mailed to 5,600 members of the general public. Public meetings were scheduled in five Idaho communities, including Idaho Falls (November 4), Pocatello (November 5), Boise (November 9), Moscow (November 10), and Twin Falls (November 12).

At each of the five public meetings, representatives from DOE, EPA (with the exception of Twin Falls) and IDHW discussed the Pit 9 interim action, answered questions, and received public comments. Written comment forms were also distributed at the meetings. Verbatim transcripts of the public meetings were recorded by a court reporter. One hundred nineteen written comments were received on the Pit 9 revised Proposed Plan from 48 members of the public; verbal comments were received from 9 individuals. Thirty-eight of the commenters expressed their support for the proposed cleanup of Pit 9 and stated that the preferred alternative, Alternative 4, appears to be the best method for the cleanup of Pit 9. Two commenters preferred Alternative 5, while another commenter suggested that a sixth alternative that would be a combination of Alternatives 4 and 5 be used to remediate Pit 9.

The original Proposed Plan was released on December 9, 1991. A public comment period began on December 13, 1991, and ended February 11, 1992. The original Proposed Plan recommended that contaminated materials be removed from Pit 9 and treated using multiple chemical or physical separation methods.

The original Proposed Plan was mailed to 5,600 members of the general public. In addition to the public comment meeting held in Idaho Falls on January 7, 1992, informational meetings were held on December 9, 10, 11, and 12, 1991 in Boise, Moscow, Twin Falls, and Idaho Falls, respectively.

At the January 7, 1992, meeting on the original Proposed Plan, representatives from the DOE, EPA, and IDHW discussed the project, answered questions, and received public comments. Written comment forms were distributed at the meeting. Verbatim transcripts of the public meeting were recorded by a court reporter. Thirty-three written comments were received on the Pit 9 original Proposed Plan from 29 members of the public; verbal comments were received from 7 individuals. Six commenters preferred Alternative 4 (Chemical Extraction and/or Physical Separation). Two commenters asked for a delay in the remediation, of Pit 9. Two commenters favored Alternative 2 (In-Situ Vitrification) as the method of Pit 9 remediation, while another commenter preferred Alternative 3 (Ex-Situ Vitrification). Another commenter

stated that Pit 9 remediation was unnecessary. One commenter favored Alternative 5 (Complete Removal, Storage, and Offsite Disposal).

In general, the public expressed three predominant opinions relative to the preferred alternative, Alternative 4. These opinions were (1) it was too expensive, (2) it was the best alternative presented, and (3) it was too vague. Further, the predominant public opinion concerning the original Proposed Plan was that the *Preliminary Risk Evaluation for Pit 9* was inadequate, overly conservative, did not reflect actual conditions at Pit 9, and should not be used to justify this interim action. Those who felt the preferred alternative was too expensive typically expressed concern that large sums of money were to be spent in reducing potential risks which did not reflect the actual risks posed by Pit 9.

Background on Community Involvement

Opportunities for public notice and participation in the decision process for an interim action at Pit 9 were provided over the course of 13 months beginning in November of 1991 and continuing into December 1992. For the public the activities ranged from receiving a fact sheet and an original and a revised Proposed Plan to having telephone briefings, public informational meetings, and public meetings to offer verbal comments during two separate 60-day public comment periods.

Original Proposal Plan

On November 19, 1991, a fact sheet concerning Pit 9 conveyed through a "Dear Citizen letter" was included in a mailing to 5,600 individuals of the general public and 11,700 INEL employees. At the same time, the INEL Public Affairs office issued a news release to more than forty news media contacts concerning the availability of the original Proposed Plan for Pit 9. The release gave public notice that the original Proposed Plan would be available prior to the beginning of the comment periods in the Administrative Record section of the INEL information repositories located in the INEL Technical Library in Idaho Falls, as well as in city libraries in Idaho Falls, Pocatello, Twin Falls, Boise, and Moscow. Display advertisements announcing the same information appeared in eight major Idaho newspapers. Advertisements appeared in the following newspapers from November 22 to the 27th: *Post Register* (Idaho Falls), *Idaho State Journal* (Pocatello), *South Idaho Press* (Burley), *Times News* (Twin Falls), *Idaho Statesman* (Boise), *Idaho Press Tribune* (Nampa), *Lewiston Morning Tribune* (Lewiston), and *Idahonian* (Moscow).

Similar display advertisements again appeared in the local newspapers several days preceding each local meeting to encourage citizens to attend and provide verbal or written comments. All three media announcements, the "Dear Citizen letter," the news release, and the newspaper advertisements gave public notice of four informational meetings concerning the cleanup of Pit 9 and the beginning of a 30-day public comment period which was to begin December 4, 1991. Additionally, two radio stations in Idaho Falls and newspapers in Idaho Falls and other communities repeated announcements from the news release to the public at large.

Personal phone calls concerning the availability of the original Proposed Plan and public meetings were made to individuals, environmental groups, and organizations by INEL outreach office staff in Pocatello, Twin Falls, and Boise. The Community Relations Plan coordinator made calls in Idaho Falls and Moscow.

Informational meetings on Pit 9 were held in conjunction with scoping two other investigations proposed for Waste Area Group (WAG) 7 at the RWMC. The meetings were held December 9, 10, 11, and 12, 1991 in Boise, Moscow, Twin Falls, and Idaho Falls, respectively. An informal open house was held one hour prior to each of the meetings to allow the public to discuss Pit 9 with IDHW, EPA, and DOE representatives. On the afternoon of December 9, a telephone briefing concerning the Pit 9 original Proposed Plan was held between DOE and a resident of Twin Falls.

Copies of the Pit 9 original Proposed Plan were distributed to those attending the informational meeting and mailed to 5,600 individuals on the INEL Community Relations Plan mailing list on December 9, 1991. Citizens attending the meetings were informed that the 30-day comment period on the original Proposed Plan would begin December 13, 1991, due to an unanticipated delay in issuance of the Proposed Plan. Copies of the original Proposed Plan and documents in the Administrative Record were made available to the public in six regional INEL information repositories: INEL Technical Library in Idaho Falls and city libraries in Idaho Falls, Pocatello, Twin Falls, Boise, and Moscow. Copies of the Administrative Record file for the Pit 9 Interim Action were placed in the information repository sections or at the reference desk in each of the libraries the week of December 9, 1991. Newspaper advertisements were placed in the same eight newspapers giving notice that the 30-day open comment period on the original Proposed Plan would run from December 13, 1991 through January 12, 1992. Notice was also given concerning the public meeting scheduled for January 7, 1992, in Idaho Falls to receive verbal comments on the plan. Advertisements were placed in local newspapers concerning this meeting.

A public meeting was held on January 7, 1992, in Idaho Falls. During the meeting, representatives from the DOE, EPA, and IDHW discussed the Pit 9 project, answered verbal and written questions, and received public comments. A court reporter prepared a verbatim transcript of the public meeting. Written comment forms were distributed at the meeting. Both the meeting transcripts and the written comments were placed in the Administrative Record section of the INEL information repositories under the heading of Pit 9, Operable Unit 7-10.

In response to requests received, the comment period was extended for an additional 30 days through February 11, 1992. A newspaper display advertisement was placed with the same eight Idaho newspapers announcing the extension. In addition, a postcard was mailed on January 13, 1992, to the 5,600 individuals who had received a copy of the plan, to notify them of the extension and to invite written comments.

Regular reports concerning the status of the Pit 9 project were included in the *INEL Reporter* and mailed to those who attended the meetings and who were on the mailing list. Reports appeared in the January, March, May, July, September, and November 1992 issues of the *INEL Reporter*.

Revised Proposed Plan

After reviewing public comments and learning new details about the process that could be used in association with the preferred alternative, the Agencies concluded that a revised Proposed Plan was in order. On October 16, 1992, the revised Proposed Plan for Pit 9 was mailed to 5,600 individuals on the mailing list for review and comment. The mailing, along with an INEL Public Affairs news release and newspaper advertisements, provided the general public with notice of the availability of the revised Proposed Plan and public meeting schedule. The notices indicated that the 30-day public comment period would begin October 22, 1992, and end on November 21, 1992. Display advertisements were placed in the following newspapers during the week of October 19, 1992: *Post Register* (Idaho Falls), *Idaho State Journal* (Pocatello), *South Idaho Press* (Burley), *Times News* (Twin Falls), *Idaho Statesman* (Boise), *Lewiston Morning Tribune* (Lewiston), and *Daily News* (Moscow).

Another series of advertisements were placed in each local newspaper several days prior to the public meetings to remind citizens to attend and comment on the revised Proposed Plan. Additionally, a special feature article in the *INEL Reporter* was mailed to 5,600 individuals on October 30 and November 2, 1992, to encourage citizens about the meetings and the opportunity to comment on the revised Proposed Plan.

After the revised Proposed Plan was distributed, the Agencies corrected two statements made in the revised Proposed Plan. A "Notice of Errors" was placed on the front cover of the November issue of the *INEL Reporter* and mailed to 5,600 individuals who had earlier received the revised Proposed Plan and to INEL employees on October 30 and November 2. Additionally, an "Errata Sheet" was mentioned at each of the meetings and made available to those attending the meetings.

Personal telephone calls were placed to individuals, environmental groups, and organizations concerning the meetings by INEL outreach office staff to citizens in northern, southwestern, and southeastern Idaho. In the days and weeks leading up to the meetings, local radio stations and newspapers carried meeting announcements and short descriptions of the revised Proposed Plan.

On November 2, 1992, a telephone briefing concerning the Agencies' revised Proposed Plan for Pit 9 was conducted. DOE, the League of Women Voters of Moscow, and the Environmental Defense Institute participated along with representatives from IDHW and EPA. During the briefing, the agencies described the revised Proposed Plan and answered questions.

Public meetings on the revised Proposed Plan were held on November 4, 5, 9, 10, and 12 in Idaho Falls, Pocatello, Boise, Moscow, and Twin Falls, respectively. During these meetings, representatives from DOE, EPA (with the exception of Twin Falls), and State of Idaho discussed elements of the revised Proposed Plan, answered questions, and received verbal comment from the public. Written comment forms, including a postage-paid business reply form, were made available to those attending the meetings. The forms were used to turn in written comments at the meeting or to mail comments at a later date. A court reporter was present at each meeting to provide a verbatim transcript of discussions and public comments.

On November 12, 1992, the DOE Project Manager for Pit 9 participated in a radio talk show in Twin Falls relative to the revised Proposed Plan. The program was broadcast to listeners in the Magic Valley area and focused on Pit 9 information that was to be discussed in the public meeting that evening.

In response to public comments requesting an extension to the public comment period, the Agencies extended the comment period an additional 30 days to December 21, 1992. Public notice of the extension included: placing display advertisements in the same seven Idaho newspapers used to announce the public comment period in October 1992, sending postcard mailings to 5,600 individuals who had received a copy of the revised Proposed Plan and/or who attended the meetings, and making personal phone calls to interested parties. These public notifications occurred during the week of November 22, 1992.

Summary of Comments Received During Public Comment Periods for Original and Revised Proposed Plan

Formal public comments and questions raised during the comment period on the original and the revised Proposed Plans for a Cleanup of Pit 9 at the INEL RWMC are summarized below. Both oral comments received at the public meetings and written comments have been grouped together according to the general subject of the comments. These comments have been responded to below.

Comments and questions on a variety of subjects not specific to the Pit 9 interim action were also received. These subjects primarily concern the Request for Proposals (RFP) for Remediation of Pit 9. In particular, DOE received comments regarding: the timing of the release, evaluation, and contractor selection process for the RFP to remediate Pit 9; role and responsibility of the EPA and the State of Idaho in the development of the RFP; whether the RFP provides that subcontractor liability will be assured; method of negotiating costs and change orders for the contract; need for additional public comment based on potential increases in remediation costs due to the lack of a ceiling or threshold value; inclusion of legally applicable or relevant and appropriate requirements (ARARs) in the RFP; and conformance with FFA/CO provisions in Sections 3.2 and 5.1. Responses to such comments are not provided in this Responsiveness Summary. Additional information on these unrelated subjects can be obtained from the INEL Public Affairs Office in Idaho Falls or at the local INEL offices in Pocatello, Twin Falls, and Boise.

Summarized Comments on the Pit 9 Interim Action

DOE has provided a comment tracking system to assist the public in finding responses to individual comments. This system allows commenters to compare public comments received by DOE with the comment summaries and responses provided in the Responsiveness Summary. This system is described below.

Each individual comment made by a commenter was assigned a code. These codes are related to the source of the comments. The first character of each code identifies whether the comment originated from a transcript (T) or written document (W). The second character is an arbitrary number assigned to each commenter. The second set of two digit numbers that follows the dash (-) represents the sequence of individual comments within a given document. For example, T1-01 is the first verbal comment (from the transcript of the proceedings) made by commenter number one. There are two comment logs which follow this Responsiveness Summary—a comment log for the revised Proposed Plan and a comment log for the original Proposed Plan. Each comment log has been organized three different ways according to (1) comment category, (2) commenter name, and (3) comment number so that the public can compare public comments received by DOE with the comment summaries and responses provided herein. The response numbers which have been marked on the actual comment and those response numbers which are contained in the comment log will correspond to the response number in the Responsiveness Summary by deleting all zeros. For example, 08.05.01 in the comment log corresponds to response number 8.5.1 in the Responsiveness Summary.

Part I
RESPONSIVENESS SUMMARY FOR REVISED PROPOSED PLAN

1. Pit 9 Interim Action Purpose

1.1 *Comment:* One commenter stated at the meetings on the original Proposed Plan for Pit 9 that the public was told that in order to allow for an interim action, the risks had to be high. At that time, the public was told that the risks were high. Now, the DOE says that the risk evaluation for Pit 9 was incorrect. It appears that DOE has backed off of the risks posed by Pit 9.

Response: The Action Plan of the Federal Facility Agreement/Consent Order (FFA/CO) describes the planning process for an interim action and indicates that an interim action can be initiated any time the data provide sufficient justification and the three agency Project Managers agree that immediate action is appropriate. An interim action may be undertaken to eliminate, reduce, or control hazards posed by a site or to expedite completion of total site cleanup. The Pit 9 interim action is part of the overall strategy for addressing contamination at the RWMC and is expected to be consistent with any planned future actions. This interim action is intended to remove the source of contamination to a level that is protective of human health and the environment, to expedite overall cleanup of RWMC, and to reduce the risks associated with potential migration of hazardous substances to the Snake River Plain Aquifer. DOE has not backed off of the risks posed by Pit 9. The risks listed in the original Proposed Plan and the risks mentioned in the public meetings on the original Proposed Plan are documented in the report, *Preliminary Risk Evaluation for Pit 9*. This report is in the Administrative Record. The report is not in error; however, as DOE stated in the revised Proposed Plan and during the public meetings on the revised Proposed Plan, the *Preliminary Risk Evaluation for Pit 9* used conservative assumptions regarding waste distribution throughout Pit 9 and assumed a future worker was in direct contact with the waste. The risks outlined in the report are based on a worst case scenario. The Record of Decision (ROD) summarizes the results of the subsurface sampling conducted to determine the nature and extent of contamination migration below the RWMC (ROD, Section 6, "Summary of Site Risks."). These data support the interim action for Pit 9 and are in the Administrative Record.

2. Pit 9 Characterization

No comments were received.

3. Pit 9 Materials Disposal

3.1 *Comment:* Commenters disagreed with use of the 10 nCi/g transuranic (TRU) criteria for determining which waste or soil would be left or returned to the pit and contended that this is a DOE internal directive that has not been legally established as protective of the environment. The commenters suggested that, due to the long half-life of the radioactive contaminants involved and the doubtful ability to maintain institutional control over the site, residential performance criteria (i.e., 1 in 1,000,000) should be used instead of the revised Proposed Plan's proposed industrial carcinogenic risk performance criteria (e.g., 1 in 10,000).

Response: For a future resident living next to Pit 9, the 10 nCi/g TRU criterion for materials left or returned to the pit is protective of human health and environment. The *Pit 9 Residual Risk Assessment*, which is in the Administrative Record, evaluated potential residual human health risks from 10 nCi/g TRU residuals left in the pit after the cleanup. Modeling of radionuclide transport to the Snake River Plain Aquifer indicated that radionuclides from Pit 9 are not expected to migrate to the aquifer during the evaluated time period of 1,000 years. The preliminary evaluation also indicated the highest risk to human health occurred after the 100-year institutional control period due to plants and burrowing animals providing a mechanism to move waste up to the surface. The preliminary evaluation indicated that cancer risks from the surface pathway were below the target risk range listed in the NCP of 1 additional cancer per ten thousand to 1 additional cancer per one million. These risks were calculated for a receptor living at the

edge of Pit 9. The residual risk assessment assumed the pit would be backfilled with clean soil after remediation.

To ensure that the Pit 9 interim action is successful in reducing risk to levels protective of human health and the environment, residual contamination will be reevaluated in the baseline risk assessment to be performed as part of the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS. In addition, an ecological risk assessment characterizing risks to the environment will be conducted as a part of the Comprehensive WAG 7 OU 7-14 RI/FS.

3.2 *Comment:* Will quality assurance mechanisms be used to ensure that noncontaminated materials are not mixed with contaminated waste in order to achieve the 10 nCi/g TRU criteria to return the material to the pit?

Response: There will be continuous oversight of the remedial subcontractor. The oversight of the cleanup subcontractor will be performed by DOE, IDHW and EPA in accordance with terms of a cleanup work plan that will be reviewed by the agencies prior to the start of the cleanup. Oversight will consist of surveillance and audits to ensure that noncontaminated soils and materials are not mixed with contaminated waste in order to achieve the 10 nCi/g TRU criteria to return the material to the pit.

3.3 *Comment:* What will be the character of waste that will be returned to the pit?

Response: The average concentrations of TRU isotopes in treatment residuals to be returned to the pit will be ≤ 10 nCi/g. In addition, prior to being returned to the pit, treatment residuals $\leq$ 10 nCi/g TRU must meet risk-based delisting levels described in the Pit 9 ROD and be shown to no longer exhibit hazardous waste characteristics pursuant to 40 CFR 261 Subpart C.

3.4 *Comment:* Where will the residual TRU waste be stored?

Response: The concentrated TRU material >10 nCi/g that will result from the treatment process under the selected remedy will be stored in storage module facilities meeting the applicable requirements of the Idaho Hazardous Waste Management Act (HWMA).

3.5 *Comment:* The 10 nCi/g TRU cleanup standard will allow some plutonium to remain in the pit. How many pounds of plutonium will remain in the pit upon completion of this interim action?

Response: There will be approximately three to four pounds of plutonium remaining in Pit 9 after the cleanup. The Agencies emphasize that the actual volume of plutonium returned to the pit cannot be predicted with certainty and will depend on the actual concentration levels encountered during cleanup as well as the ability of the selected treatment technology to treat waste to levels below the 10 nCi/g.

3.6 *Comment:* For each type and size of radionuclide that is returned to the pit, what will be the mrem/hr dose rate to humans?

Response: For a receptor located at Pit 9 operable unit boundary, the dose rate from plutonium is 4.3×10^{-23} mrem/hr and the dose rate from americium is 1.2×10^{-20} mrem/hr. Allowable, total dose rate to the public is 1.14×10^{-3} mrem/hr (10 mrem per year). Allowable, total dose rate to an EG&G worker is 1.7×10^{-1} mrem/hr (1.5 rem per year).

3.7 *Comment:* Two hundred years from now, what will be the radiation dose from the material that is returned to the pit to the users of the aquifer?

Response: Modeling of radionuclide transport to the Snake River Plain Aquifer indicated that radionuclides from Pit 9 are not expected to migrate to the aquifer during the evaluated time period of 1,000 years. Consequently, there are no risks anticipated from potential ingestion of groundwater to future receptors (industrial or residential) at the Pit 9 boundary 200 years from now. This modeling is described in the *Pit 9 Residual Risk Assessment*, which is in the Administrative Record.

To ensure that the Pit 9 interim action is successful in reducing risks to levels protective of human health and the environment, residual contamination will be reevaluated in the baseline risk assessment will be performed as part of the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS. In addition, an ecological risk assessment characterizing risks to the environment will be conducted as a part of the Comprehensive WAG 7 OU 7-14 RI/FS.

3.8 *Comment:* May DOE legally bury the residual waste, which is placed in barrels, as low-level waste?

Response: The "residual waste" that is concentrated TRU material resulting from the selected treatment process may not be legally buried as low level waste. "Residual waste" that is ≤ 10 nCi/g TRU after treatment and meets risk-based delisting levels and hazardous waste characteristic standards (40 CFR 261 Subpart C) may be legally buried in Pit 9. This assumes that the waste materials in Pit 9 containing > 10 nCi/g TRU would be excavated, treated to reduce the volume by approximately 90%, and that the hazardous constituents of the treatment residuals meet risk-based delisting levels and characteristic hazardous waste standards.

4. General Technical

No comments were received.

5. Risk Assessment

5.1 *Comment:* Commenters felt that the Pit 9 documents supporting the radiological inventory used in the risk evaluation contained inaccurate assumptions which lead to confusion and an underestimation of the radionuclide inventories, potential migration of contaminants, and probable hazards at Pit 9. These inaccurate assumptions concern:

(a) disposition of the total volume of waste shipped from Rocky Flats to INEL,
(b) the radionuclide inventory of waste in Pit 9,
(c) uniform distribution of Pu-239 throughout the waste volume in Pit 9,
(d) nonmigration of radionuclides below the 150-foot level,
(e) implementation of 100-year institutional control measures at Pit 9,
(f) the current presence of a layer of soil underlying Pit 9 that assists in filtering contaminants, and
(g) nonconservative precipitation rates used to calculate leachate factors for reinterred waste.

The commenters cited data from various EG&G Idaho and United States Geological Survey (USGS) reports to support these comments.

Response: In general, the commenter should be aware that residual contamination at Pit 9 will be reevaluated in the baseline risk assessment to be performed as part of the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS, to ensure that the Pit 9 interim action is successful in reducing risk to levels protective of human health and the environment. In addition, an ecological risk assessment characterizing risks to the environment will be conducted as a part of the Comprehensive WAG 7 OU 7-14 RI/FS. Responses to the specific comments follow.

(a) and (b) The data cited by the commenters in support of this comment concern the total radionuclide inventory of all the TRU-contaminated pits and trenches in the Subsurface Disposal Area (SDA). The inventory of contaminants in Pit 9, which is located in the SDA, is based on available shipping records, process knowledge, written correspondence, and the Radioactive Waste Management Information System (RWMIS).

(c) The *Preliminary Risk Evaluation for Pit 9* used conservative assumptions regarding waste distribution throughout Pit 9 and assumed a worker was in direct contact with the waste. As a result, the *Preliminary Risk Evaluation for Pit 9* overestimated the risk to RWMC worker health posed by Pit 9. The assumptions in the *Preliminary Risk Evaluation for Pit 9* do not reflect actual physical conditions at Pit 9; the *Preliminary Risk Evaluation for Pit 9* was conservative to ensure that all potential risks were considered.

(d) Subsurface monitoring at the RWMC to determine if radionuclides or other hazardous contaminants had migrated into the subsurface began in the 1970s and is currently ongoing. Analytical results indicate that minute amounts of man-made radionuclides have migrated from the SDA toward the Snake River Plain Aquifer. An independent review of all analytical data from core drilling in the basalt below the SDA supports the conclusion that

americium-241, cobalt-60, plutonium-238, plutonium-239, and plutonium-240 are present in the clay/soil interbed sediments 33.5 m (110 ft) below the surface. The results of the data analyses do not support the presence of man-made radionuclides in the discontinuous interbed at 9.1 m (30 ft) below ground level nor the interbed sediments at 73.2 m (240 ft) below ground level. The report entitled *Compilation and Summarization of the Subsurface Disposal Area Radionuclide Transport Data at the Radioactive Waste Management Complex* contains the results of the data analyses and is in the Administrative Record.

(e) Because the waste returned to Pit 9 is low-level waste, DOE Order 5820.2A requires active institutional control of Pit 9 for a 100-year period. Therefore, in order to accurately assess the risks following pit remediation, it is necessary to assess the risks associated with a scenario involving a 100-year institutional control period as is done in the *Pit 9 Residual Risk Assessment*.

(f) Assumptions regarding the presence of a layer of soil underlying Pit 9 are based upon actual records describing pit design and waste disposal techniques which were in place at the time of pit operation.

(g) Conservative precipitation rates and groundwater infiltration rates were used in the transport modeling. Refer to the document "GWSCREEN Modeling for the Pit 9 Project-Sensitivity to K_d in the Source and Attenuation Layer," which is in the Administrative Record.

5.2 *Comment:* Commenters noted that the risk evaluation for several potential exposure pathways exceeded the risk-specific concentrations for Am-241, Pu-239, and/or Cs-137 within the residential and/or occupational exposure scenarios. Also, the risk evaluation is based on understated radionuclide inventories.

Response: The *Preliminary Risk Evaluation for Pit 9* did show that the occupational and residential exposure scenario exceeded risk levels recommended by the NCP. DOE stated in the revised Proposed Plan and during the public meetings on the revised Proposed Plan that the *Preliminary Risk Evaluation for Pit 9* used conservative assumptions regarding waste distribution throughout Pit 9 and assumed a worker was in direct contact with the waste. The risks outlined in that risk evaluation are based on a worst case scenario. The radionuclide inventories evaluated in the *Preliminary Risk Evaluation for Pit 9* were based on available shipping records, process knowledge, written correspondence, and the Radioactive Waste Management Information System (RWMIS).

5.3 *Comment:* The *Preliminary Risk Evaluation for Pit 9* does not refer to the presence of any classified material used to determine the source term for the risk calculation. If this lack of a reference to classified material disposal is intended to suggest that no classified material was disposed of in Pit 9 or other SDA areas, then DOE is obligated to so state.

Response: Pit 9 records do not indicate the presence of any classified materials.

5.4 *Comment:* One commenter stated that there is nothing in the Administrative Record which supports DOE's claim that the *Preliminary Risk Evaluation for Pit 9* overstated the risk to RWMC worker health posed by Pit 9 because the *Preliminary Risk Evaluation for Pit 9* used conservative assumptions regarding waste distribution throughout Pit 9 and assumed a worker was in direct contact with the waste.

Response: The introduction to the *Preliminary Risk Evaluation for Pit 9*, a document in the Administrative Record, states that the assumptions regarding waste distribution and worker location are very conservative. The DOE does not claim that the risk to RWMC worker health is overstated but only observes that the risk evaluation itself assumes conservative conditions, which do not reflect actual physical conditions at Pit 9. This is also stated in the revised Proposed Plan, which is in the Administrative Record.

6. Regulations and Roles of Government Agencies

6.1 *Comment:* Some commenters were critical of the State of Idaho DEQ and the INEL Oversight Program, alleging they had not provided a credible enforcement and oversight role in the cleanup process. Others expressed that the DEQ was not well informed or was attempting to deliberately mislead the public.

Response: The INEL Oversight Program is responsible for monitoring and assessment of INEL activities, not oversight of cleanup at the INEL. All FFA/CO activities are the responsibility of the IDHW. Under the FFA/CO, IDHW is involved in the cleanup decision process for all WAGs and operable units (OUs) at the INEL and is the lead regulatory agency for all of the WAG 7 RWMC OUs and WAG-wide actions. Pursuant to the FFA/CO, IDHW receives all of the information at the same time that it is provided by DOE to EPA, whether this consists of copies of reports, sampling results, or draft documents that have been prepared by DOE. IDHW has a duplicate copy of the contents of the Administrative Record which provides immediate access to all of the information that is relied on to support decisions being made. IDHW provides substantial oversight in the development of cleanup strategies, potential alternatives, decisions to undertake treatability studies, initiation of interim actions, etc. IDHW conducts reviews and provides comments (both formally and informally) on all DOE deliverables and documents prepared under FFA/CO schedules. IDHW also ensures that the conditions and requirements of the FFA/CO and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) decision process are carried out and may enforce those requirements in accordance with the FFA/CO. The IDHW Project Manager participates in regular meetings and conference calls with the DOE and EPA Project Managers, and concurrence among the three Project Managers is often needed on many issues before DOE is able to proceed. The INEL Oversight Program similarly provides independent oversight of the monitoring and assessment activities at the INEL and also is involved in review of the integrated NEPA/CERCLA documentation that is prepared by DOE under its integration policy. These activities and roles on the part of the State may not always be visible or apparent to members of the public; however, the State carries out a crucial role important to the success of the entire cleanup effort.

6.2 ***Comment:*** Commenters asked whether an Environmental Impact Statement (EIS) will be necessary for construction of an incinerator or other proposed technologies.

Response: DOE has a policy to integrate NEPA values into the CERCLA decision making process. Pursuant to that policy, an Environmental Assessment (EA) level NEPA review was applied to the Pit 9 Interim Action. Based on that review, DOE concluded that an EIS was not necessary and a Finding Of No Significant Impact (FONSI) was issued.

6.3 ***Comment:*** Commenters stated that commencing a proof-of-process (POP) test before issuing a ROD would be a violation of the FFA/CO. Another commenter stated that although he favored Alternative 4, it constituted research and development, which are not appropriate under CERCLA, the NCP, or the FFA/CO.

Response: Commencing a POP and LPT does not violate the FFA/CO or the remedy selection process established by CERCLA and the NCP. The POP and LPT are treatability test phases that are consistent with these processes. The POP and LPT test phases are to be performed within the interim action for Pit 9 to prove the reliability, cost effectiveness, and ability to meet cleanup criteria for the subcontractor processes that are part of the preferred alternative. The full scale remediation phase of the interim action is contingent on the successful demonstration of these techniques.

In the NCP, EPA expresses its expectation that principal threats posed by a site should be treated wherever practicable and that any treatment as part of CERCLA remedies should achieve reductions of approximately 90 to 99% in the concentration or mobility of individual contaminants of concern. In order to achieve these percentage reductions, the treatment technology is expected to involve well-designed and well-operated systems and may involve application of a single technology or a combination of technologies. In the NCP, EPA encourages treatability testing of innovative technologies and expects that the examination of such technologies will be initiated early and carried through to the detailed analysis stage [40 CFR §300.430(a)(1)(iii)(E)]. The POP and LPT fulfill these expectations and are designed to demonstrate that they are technically feasible, implementable, cost effective, and reliable for purposes of the full-scale Pit 9 remediation. If these treatability tests do not successfully make these demonstrations, the Agencies may issue an Explanation of Significant Differences (ESD), a ROD amendment, or choose to reevaluate Pit 9 for cleanup in the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS.

6.4 ***Comment:*** One commenter stated that DOE violated the FFA/CO by throwing out the *Preliminary Risk Evaluation for Pit 9* and not replacing it with an accurate risk evaluation as required by the guidelines

in Section 5.0 of the FFA/CO for a Track 2 process. The State of Idaho and the EPA should shut down Pit 9 until such time as a risk evaluation, which compels the interim action, is available to the public.

Response: DOE has not "thrown out" the *Preliminary Risk Evaluation for Pit 9*. However, DOE has stated that the *Preliminary Risk Evaluation for Pit 9* used conservative assumptions regarding waste distribution throughout Pit 9 and assumed a worker was in direct contact with the waste. As a result, the *Preliminary Risk Evaluation for Pit 9* conservatively estimated the risk to RWMC worker health posed by Pit 9. Additionally, Pit 9 is not listed in the FFA/CO as a Track 2 process; rather, it is listed as an interim action (refer to Table A-1, p. A-4 and Table A-2, p. A-22 of the FFA/CO Action Plan). The interim action planning process (refer to the FFA/CO Action Plan, Section 2.5) allows an interim action to be initiated any time the data provide sufficient justification and the three agency Project Managers agree that early action is appropriate. The Pit 9 interim action designation was determined as part of the FFA/CO negotiation process, not during or following a Track 2 process (refer to Section 2.4 of the FFA/CO Action Plan). That designation, along with all other OU designations in the Action Plan, was submitted to a 60-day public review and comment period when the draft FFA/CO was issued during the late summer of 1991. The data supporting the Pit 9 interim action are summarized in the revised Proposed Plan and the Pit 9 ROD, and are in the Administrative Record.

6.5 ***Comment:*** The NCP requires that the Administrative Record include a baseline risk assessment, which forms the basis for establishing the cleanup levels and demonstrates the need for an interim action; however, these documents are not in the Administrative Record.

Response: The NCP does not require that the Administrative Record include a baseline risk assessment for an interim action; rather, in the NCP, EPA recognizes that a completed baseline risk assessment generally will not be available or necessary to justify an interim action. The NCP requires that qualitative risk information be organized to demonstrate that the site action is necessary to stabilize the site, prevent further degradation, or achieve significant risk reduction quickly (55 FR 8704). Data that support this interim action, including risk information, are in the Administrative Record.

7. Public Involvement

7.1 ***Comment:*** Some commenters felt that the amount of information provided to the public regarding the proposed Pit 9 interim action was inadequate to permit reasonable evaluation of the Proposed Plan. Others believed that the information provided was inaccurate and trivialized the risks by excluding relevant information. Relevant information, which was allegedly excluded, includes sufficient quantitative data on hazardous concentrations or radioactivity levels (both mass and activity), identification of the applicable regulatory standards, and quantification of the total volume of materials to be exhumed from Pit 9.

Response: The Agencies made every effort to include in the Administrative Record and revised Proposed Plan all relevant information necessary to evaluate the proposed cleanup. In particular, detailed quantitative data describing hazardous waste volumes contained within Pit 9 are included in the *Nonradionuclide Inventory in Pit 9 at the RWMC*. In addition, both the mass and activity of radionuclides found in Pit 9 are described in the *Methodology for Determination of a Radiological Inventory for Pit 9 and Corresponding Results*. Both documents are in the Administrative Record.

EPA guidance requires identification of major ARARs for each alternative listed in the Proposed Plan and a more detailed description of all ARARs in the ROD (see, e.g., "Interim Final Guidance on Preparing Superfund Decision Documents,", OSWER Directive 9355.3-02 (October 1990), Ch. 2, 6). The Pit 9 revised Proposed Plan was prepared in accordance with this EPA guidance and includes a discussion of the major ARARs for each alternative. For example, the revised Proposed Plan identifies RCRA container and tank system requirements, LDR treatment standards, RCRA closure requirements, and Clean Air Act/National Emission Standards for Hazardous Air Pollutants (CAA/NESHAP) standards as potential ARARs for the preferred alternative. A more comprehensive discussion of the regulatory requirements is included in the Pit 9 ROD.

The total volume of materials to be exhumed from Pit 9 under the various remedial alternatives was not included in the revised Proposed Plan. Assumptions regarding the volume of materials exhumed from Pit 9 are included in the ROD. It is estimated that 7,079.2 m^3 (250,000 ft^3) of material would be exhumed

and treated under Alternatives 3 and 4. Under Alternative 5, approximately 14,158.4 m^3 (500,000 ft^3) of soil and other materials would be excavated, containerized, and stored.

7.2 *Comment:* One commenter requested that the public comment period be extended a minimum of 30 days beyond the availability of the "white paper" on the proposed technologies in the Administrative Record.

Response: The "white paper" is an engineering design file (EDF) entitled *Summary Process Description of Proposed Remedial Alternatives for a Cleanup of Pit 9 at the INEL Radioactive Waste Management Complex*. The EDF was placed in the Administrative Record on November 10, 1992. The public comment period was extended for an additional 30 days beyond the original comment period (October 22, 1992, through November 22, 1992). The public comment period thus closed on December 21, 1992.

7.3 *Comment:* Commenters expressed the opinion that the Agencies have not followed the FFA/CO with respect to proper public involvement; however, to insist on proper public involvement in the remediation process at this time would mean that the public would stop cleanup at the INEL. Other commenters felt that DOE's failure to seek public comment prior to deciding to remediate Pit 9 as an interim action and to solicit a Request For Proposal (RFP) for Alternative 4 is a violation of NEPA, the FFA/CO, NCP, and the Community Relations Plan.

Response: Public participation in the decision process for the Pit 9 interim action has been designed in accordance with the requirements and guidelines of the NCP, FFA/CO (Part XXIV), and the Community Relations Plan. The Agencies believe that the opportunities for public involvement provided on the original and revised Proposed Plans meet these legal requirements and guidelines. The decision to evaluate Pit 9 as an interim action was made by the IDHW, EPA, and DOE and was subject to public comment when the FFA/CO was issued in August 1991 for a 60-day public comment period. The FFA/CO reflected the Pit 9 interim action designation, and this was open to public comment along with all other aspects of the FFA/CO. While the RFP solicitation itself is an internal contractual process not legally subject to public involvement requirements, the Proposed Plan presented the Agencies' preferred Alternative 4 which would involve bringing alternative subcontractors on board to demonstrate effective application of various technical processes to Pit 9. This alternative was subject to two rounds of public comment and preceded any final subcontractor selection based on the RFP solicitation.

7.4 *Comment:* One commenter expressed the opinion that even if the Agencies have obeyed the law with respect to public involvement in the decision making process, at some point the Agencies will need to go beyond the "letter of the law" and involve the public.

Response: The letter of the law requires an opportunity for a public meeting. Public involvement for the Pit 9 Interim Action has gone beyond the letter of the law in providing two separate, 60-day public comment periods accompanied by 8 separate public meetings held in communities throughout the State of Idaho. Fact sheets, multi-media announcements (on radio and television), and newspaper advertisements were published and distributed throughout the state. In addition, informational meetings were held and telephone briefings were given, and personal phone calls concerning the availability of the Proposed Plan and public meetings were made to numerous individuals and organizations.

7.5 *Comment:* One commenter expressed the opinion that individuals from the Snake River Alliance should not decide technical issues unless they are technically qualified to do so.

Response: Comment noted.

7.6 *Comment:* Will the public be involved in any air quality permitting process?

Response: Because this interim action will be carried out entirely on the INEL site in accordance with CERCLA Section 121, it is exempt from the administrative requirement of obtaining federal, state, or local permits. However, this interim action must satisfy all the applicable or relevant and appropriate (ARAR), substantive federal and state standards, requirements, criteria, or limitations which would have been included in any permit. Various Clean Air Act ARARs that must be met by the Pit 9 interim action are identified in the Pit 9 ROD. Since there will be no air quality permitting process, no public hearing for

specific air quality issues will be held. However, the public can request that they be provided with information regarding the design and cleanup of Pit 9.

7.7 ***Comment:*** A commenter stated that prior to the bid opening for Pit 9 remediation, the commenter requested information and protocols for bid proposals from DOE. The commenter stated that he was told that the information was not available to him, could not be released to him, and that the process was closed in advance of the bidding process.

Response: All bidders who met the requirements outlined in the procurement process summarized below would receive fair and equal consideration. There were three *Commerce Business Daily* (CBD) notices dated March 14, 1991; March 28, 1992; and May 2, 1992. The May 2, 1992, notice superseded the previous advertisements and was published on May 16, 1992. The solicitation closed 10 working days from this publication date. As is evident by the process described below, the commenter would have been prevented from receiving information on the RFP if interest was not expressed by the deadline listed in the CBD.

The procedure for procurement of services under a government contract is as follows:

- An advertisement is placed in the CBD. A brief outline of the services requested and a deadline by which interested persons must respond to the advertisement are included in the advertisement.
- The process requires that those persons interested in being considered must notify the procurement department in writing by the date listed in the CBD advertisement.
- An RFP is sent to those persons who express interest in writing to the CBD request. Only those individuals who reply to the CBD advertisement by the deadline specified therein can receive the RFP.
- Those persons who reply to the RFP and meet the requirements of the RFP are considered for the request for bid.
- Those persons that meet the RFP requirements are requested to submit a bid on the requested services.
- A selection is made from among the bidders.

8. Pit 9 Cleanup Alternatives

8.1 General Questions on Alternatives

8.1.1 ***Comment:*** One commenter felt that pursuing Alternatives 2, 3, or 4 is impermissible until completion of the DOE-Headquarters (HQ) Programmatic Environmental Impact Statement (PEIS).

Response: It is permissible to pursue the alternatives included in the Pit 9 interim action prior to issuance of RODs for either of these two EISs. The Pit 9 interim action is governed by the CERCLA process and is subject to enforceable deadlines and milestones as published by the FFA/CO. That process includes meeting the substantive requirements of federal and state laws and regulations. DOE has adopted a policy for integrating NEPA into the CERCLA decision and documentation process. That policy also discusses PEISs and site-specific EISs, such as the INEL ER&WM EIS, and indicates that the timing of these documents may not necessarily coincide with each other or with the project specific integrated NEPA/CERCLA documents being developed under cleanup agreements. Where possible, the EISs will set the stage and framework for the actual cleanup activities being conducted; however, more detailed information may not be available until the project specific NEPA/CERCLA documents are actually prepared. The CERCLA decision process provides the criteria to ensure protection of public health and the environment, and the DOE policy ensures that NEPA values are taken into consideration. Pursuant to

DOE's integration policy, an EA level of NEPA review was applied to the Pit 9 interim action. Based on that review, DOE concluded an EIS was not necessary for the Pit 9 interim action and a FONSI was issued.

8.1.2 *Comment:* Final disposal of all processed wastes must be in a fully permitted and compliant RCRA Subtitle C facility.

Response: The concentrated TRU material >10 nCi/g that will result from the treatment process under the selected remedy will still include listed hazardous wastes and thus will be stored in storage module facilities meeting the applicable requirements of the Idaho Hazardous Waste Management Act (HWMA). Treatment residual resulting from the treatment process that is ≤ 10 nCi/g TRU and that meets risk-based delisting levels identified in the ROD as well as characteristic hazardous waste standards (40 CFR 261 Subpart C) will be returned to the pit. As described in the ROD, this material is no longer subject to RCRA Subtitle C management requirements; however, the agencies have determined that the treatment residuals containing ≤ 10 nCi/g TRU that are returned to the pit will be managed in accordance with relevant and appropriate RCRA Subtitle C closure requirements.

8.1.3 *Comment:* A sixth alternative, which is a combination of Alternatives 4 and 5, is supported. Under this sixth alternative, all waste would be exhumed from the pit, the treatment technology that passes the POP test in Alternative 4 would be utilized, and no treated waste would be returned to the pit.

Response: CERCLA §121 mandates that remedies be protective of human health and the environment. In addition, the remedies should utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable and be cost-effective. Because the commenter's proposed sixth alternative would involve the treatment of significantly more waste, the cost of this alternative would be substantially higher than the cost of Alternative 4. This interim action is intended to remove the source of contamination to a level that is protective of human health and the environment, to expedite overall cleanup of RWMC, and to reduce the risks associated with potential migration of hazardous substances to the Snake River Plain Aquifer. Other alternatives were considered and dismissed by the Agencies as not meeting the needs for the interim action. The five alternatives presented in the revised Proposed Plan appear to be the best alternatives for the Pit 9 interim action. The Agencies believe that among the five alternatives presented in the revised Proposed Plan, Alternative 4 provides the best balance of trade-offs among the alternatives with respect to the CERCLA evaluation criteria.

8.1.4 *Comment:* It is clear that the actions which DOE could be taking to clean up the environment could have negative impacts on the environment.

Response: The primary objective of the Pit 9 interim action is to remove the source of contamination to a level that is protective of human health and the environment, to expedite overall cleanup of RWMC, and to reduce the risks associated with potential migration of hazardous substances to the Snake River Plain Aquifer. The CERCLA and the NCP processes require that each remediation alternative be evaluated according to nine evaluation criteria. These criteria are listed on p. 7 of the revised Proposed Plan and pp. 25-34 of the Pit 9 ROD. With respect to "Overall Protection of Human Health and the Environment," one of the nine evaluation criteria, the Agencies have determined that Alternative 4 would reduce the chance of migration of contaminants, thus reducing the risk of exposure to the public and the environment. Alternative 4 would be designed to provide long-term protection to the public and the environment. Additionally, to further address considerations regarding worker and public safety, a POP test will be performed before full-scale remediation to confirm treatment standards can be met and identify the most cost-effective technique or combination of techniques to be utilized in the remedial design. The POP phase would require extensive demonstration of critical aspects of the process to prove that innovative technology from the proposed process elements would be effective in achieving protectiveness of worker and public health, safety and the environment in the remediation of Pit 9.

8.1.5 *Comment:* Have risk-based remediation levels been established which will ensure that the interim action is the final remedy?

Response: The *Pit 9 Residual Risk Assessment*, which is in the Administrative Record, evaluated potential residual human health risks from 10 nCi/g TRU residuals left in the pit after the cleanup.

Modeling of radionuclide transport to the Snake River Plain Aquifer indicated that radionuclides from Pit 9 are not expected to migrate to the aquifer during the evaluated time period of 1,000 years. The preliminary evaluation also indicated the highest risk to human health occurred after the 100-year institutional control period due to plants and burrowing animals providing a mechanism to move waste up to the surface. The preliminary evaluation indicated that cancer risks from the surface pathway were below the target risk range listed in the NCP of 1 additional cancer per ten thousand to 1 additional cancer per one million. These risks were calculated for a receptor (i.e., a resident) living at the edge of Pit 9. The residual risk assessment assumed the pit would be backfilled with clean soil after remediation. To ensure that the Pit 9 interim action is successful in reducing risk to levels protective of human health and the environment, residual contamination will be reevaluated in the baseline risk assessment to be performed as part of the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS.

8.2 Alternative 1 - No Action
No comments were received.

8.3 Alternative 2 - In-Situ Vitrification
No comments were received.

8.4 Alternative 3 - Ex-Situ Vitrification
No comments were received.

8.5 Alternative 4 - Physical Separation/Chemical Extraction/Stabilization Process

8.5.1 *Comment:* The available literature suggests that implementation of the preferred Alternative 4 would not be protective of human health and the environment.

Response: The Pit 9 interim action is intended to remove the source of contamination to a level that is protective of human health and the environment, to expedite the overall cleanup at the RWMC, and to reduce the risks associated with potential migration of hazardous substances to the Snake River Plain Aquifer. Implementation of the selected remedy (Alternative 4) pursuant to the Pit 9 ROD includes provisions to protect workers and members of the public during routine excavation, retrieval, and waste treatment operations that would be conducted at Pit 9. During all operations, air emission control systems would keep releases of contaminants to within applicable State and Federal requirements. For example, excavation of Pit 9 would take place within a double confinement structure, and all operations and processes would be controlled remotely. Monitoring devices within and around buildings and HEPA filters would be installed to control air emissions. Construction and routine operational activities would proceed according to OSHA regulations. Worker exposures would be as-low-as-reasonably-achievable (ALARA) and be kept within radiation protection standards set forth in DOE orders. Monitoring of the work environment and personnel would be conducted, and area exposure monitoring data would be obtained to verify that workplace air contaminant levels are below those prescribed by ACGIH, OSHA, and applicable DOE standards. The risks associated with implementation of the remedy will be refined during the design stagea through the DOE Safety Analysis and Review System (SARS), which performs analyses to identify and assess risk of potential hazards and identify methods for eliminating or controlling the hazards. Appropriate engineering and administrative controls such as implementation of health and safety procedures and use of personal protective equipment would be used to reduce identified hazards associated with aspects of the selected remedy.

8.5.2 *Comment:* Commenters objected to returning treated waste to Pit 9 under Alternative 4 before completion of the pending PEIS, because Pit 9 must be considered collectively with impacts of other site-wide ER&WM activities. Others are opposed to Alternative 4 and stated that the return of any hazardous waste to the pit would be unacceptable.

Response: The Pit 9 interim action may proceed prior to the issuance of RODs for the DOE-Headquarters PEIS and/or the INEL ER&WM EIS. The purpose of this interim action at Pit 9 is to remove the source of contamination to a level that is protective of human health and the environment, to expedite the overall cleanup at the RWMC, and to reduce the risks associated with potential migration of

hazardous substances to the Snake River Plain Aquifer. CERCLA and the NCP processes require that the Pit 9 interim action meet substantive requirements of federal and state ARARs (or invoke a waiver of ARARs). DOE's NEPA/CERCLA integration policy recognizes that the timing of a PEIS or site-wide EIS may not necessarily coincide with each other or with the project-specific integrated NEPA/CERCLA documents being developed under cleanup agreements. Where possible, the EISs will set the stage and framework for the actual cleanup activities being conducted; however, more detailed information may not be available until the project-specific integrated NEPA/CERCLA documents are actually prepared. Cumulative impacts will be reviewed in the INEL ER&WM EIS, as well as in the project-specific integrated NEPA/CERCLA documents themselves. DOE's NEPA/CERCLA integration guidance states that, where appropriate, these project-specific documents should reference the site-wide EIS's cumulative impacts assessment of multiple related cleanup actions and major new facilities and update that assessment as necessary. Those project-specific integrated documents that precede a site-wide EIS should assess potential cumulative impacts to which that project would contribute. The Pit 9 revised Proposed Plan included consideration of potential cumulative impacts from the Pit 9 interim action. NEPA itself allows certain actions to proceed while an EIS is pending, as long as the action will not adversely affect the environment or limit the choice of reasonable alternatives in the pending EIS, and is separately justified and covered by its own NEPA documentation (40 CFR §1506.1). This has been done through the integrated NEPA/CERCLA documentation prepared for Pit 9.

8.5.3 *Comment:* Commenters felt that aspects of Alternative 4 might be illegal under NEPA and RCRA.

Response: DOE disagrees that elements of Alternative 4 are illegal under NEPA or RCRA. Through the CERCLA and NCP process, all of the applicable or relevant and appropriate (ARAR) substantive requirements of RCRA (and all other federal and state laws and regulations) are required to be met (or an ARARs waiver invoked) at each OU and WAG undergoing investigation and/or cleanup. The State and EPA review DOE's preliminary determination of ARARs and add to or object to these preliminary determinations, as necessary. DOE has adopted a policy of integrating NEPA values with the CERCLA decision process and adds discussions of these values to the CERCLA documentation it prepares. The analyses and processes required by CERCLA and the NCP for remedy selections involve essentially the same scope, level of detail, and subject matter that are appropriate under NEPA. DOE provides copies of these project-specific integrated documents to the appropriate State, EPA, and Shoshone-Bannock representatives responsible for NEPA reviews. Also, through the CERCLA public comment process, DOE carries out NEPA public involvement goals. All comments received from members of the public or other Agencies are included in the Administrative Record and are addressed in the responsiveness summaries that are prepared.

8.5.4 *Comment:* A majority of the commenters expressed their support for the proposed cleanup of Pit 9 and stated that the preferred alternative, Alternative 4, appears to be the best method for the cleanup of Pit 9 and that 10 nCi/g TRU in soils and materials returned to or left in the pit at the conclusion of the remedial action is protective of human health and the environment.

Response: The Agencies believe that Alternative 4 would achieve substantial risk reduction through treatment of the radionuclides and the hazardous materials in Pit 9. Alternative 4 utilizes a combination of physical/chemical treatment process elements to address some of the implementation difficulties and uncertainties associated with stabilization/ vitrification of the heterogeneous waste types found in Pit 9. In addition, by significantly reducing the toxicity and volume of contaminants using physical/chemical treatment prior to stabilization, Alternative 4 will result in a smaller volume of treatment residuals requiring disposal than those alternatives consisting of a stabilization/vitrification process only. The preferred alternative is believed to provide the best balance of trade-offs among alternatives with respect to the nine CERCLA evaluation criteria.

8.5.5 *Comment:* A commenter strongly supported the preferred alternative and expressed the opinion that the process used in the preferred alternative will have substantial transfer value with respect to the rest of the RWMC and other areas.

Response: It is anticipated that the processes utilized in this interim action will provide useful information regarding the effectiveness of treatment technologies on other wastes present at the RWMC.

8.5.6 *Comment:* How much radiation is in the pit? Specify how much radiation will be removed from the pit for each of the two treatment processes under consideration in Alternative 4.

Response: It is assumed that the reference to "radiation in the pit" refers to the amount of TRU radioactive material in the pit. The TRU radiological inventory as of 1992 is:

1) plutonium: 1,450 curies (Pu-239 and Pu-240)

2) americium: 2,260 curies

In addition, the pit contains 2,930 curies of TRU radionuclides which do not emit alpha radiation and as such are not managed as TRU waste (Pu-241). The selected treatment process must treat Pit 9 waste with TRU concentrations > 10 nCi/g to reduce the volume by approximately 90% or more prior to being returned to the pit. In addition, hazardous wastes must meet risk-based delisting levels and characteristic hazardous waste standards before this material is returned to the pit. Based on this process, the agencies expect approximately 2,034 curies of americium and 1,305 curies of TRU plutonium (Pu-239 and Pu-240) to be removed. The material returned to Pit 9 will contain TRU isotopes of ≤ 10 nCi/g. The process would also remove 2,637 curies of Pu-241.

8.5.7 *Comment:* Alternative 4 presents two very complicated treatment processes and these two treatment processes are, in reality, two distinct alternatives which should be presented to the public as such.

Response: The two treatment processes being considered in Alternative 4 involve the same three steps: (1) physical separation, (2) chemical treatment, and (3) stabilization. A combination of these treatment process elements may be used where cost effectiveness and overall performance of the remedy can be enhanced. For this reason, the Agencies feel that the two treatment processes are not two distinct alternatives.

8.5.8 *Comment:* One commenter stated that Alternative 4 is an expensive but viable alternative; another commenter expressed the opinion that the cost of the preferred alternative is too high in light of the fact that the risk is negligible.

Response: Cost effectiveness of the preferred alternative is one of the nine evaluation criteria established by CERCLA and the NCP that was used by the Agencies in evaluating the five alternatives presented in the Proposed Plan. Table 1 in the revised Proposed Plan (Table 6 in the Pit 9 ROD) presents a comparative evaluation of the alternatives in terms of the CERCLA primary balancing criteria that includes cost. The costs presented are rough estimates and Alternative 5 was shown to be the highest cost alternative, with Alternative 2 being the lowest. Alternative 4 ranks between Alternatives 2 and 5 in terms of cost, but based on all of the balancing criteria, Alternative 4 rated the highest. Alternative 4 will provide an effective method of substantially and permanently reducing the risks associated with Pit 9 and attain stated remediation goals. Implementation of Alternative 4 at the present time will expedite completion of total site cleanup by reducing the volume of contaminants which may be subject to later cleanup actions. Risk is not the sole factor in determining whether an interim action should be performed. In this case the benefit of reducing the total volume of contaminants in Pit 9 and evaluating the availability of technologies which can effectively reduce contamination levels also justify performance of an interim action.

8.5.9 *Comment:* Will returning radionuclides to the pit prevent the alternative of retrieval of radionuclides from the vadose zone?

Response: An interim action cannot be inconsistent with, nor preclude the final remedy. Future cleanup activities concerning final remediation at WAG 7 have not yet been planned. However, the Pit 9 interim action is expected to be consistent with any other planned, future WAG 7 remedial actions.

8.5.10 *Comment:* One commenter stated in deciding between the two treatment processes under consideration in Alternative 4, DOE should give preference to the process which provides the most stability in the final product as opposed to the most volume reduction.

Response: CERCLA establishes a preference for the selection of remedial actions which involve treatment that permanently and significantly reduces the volume, toxicity, or mobility of hazardous substances. In this interim action, a requirement for successful completion of the POP and LPT phases is that the treatment residual must be stabilized. In the event that both subcontractor treatment processes pass the POP and LPT, one of the selection criteria will be stability of the waste form, which is in accordance

with this CERCLA statutory preference. Thus, in effect, the Agencies will give preference to the process elements that best achieve the CERCLA cleanup criteria as described in the revised Proposed Plan.

8.5.11 *Comment:* One commenter felt that risks associated with returning residual waste to Pit 9 should be made available to the public before DOE awards any contract.

Response: The *Pit 9 Residual Risk Assessment* is in the Administrative Record.

8.5.12 *Comment:* One commenter expressed the preference that, if Alternative 4 is the alternative chosen, the process involving the thermal treatment unit should be avoided.

Response: The treatment process that is selected must achieve the CERCLA statutory criteria to ensure protectiveness of human health and the environment. The results of the POP and LPT will be used to evaluate and ultimately select the appropriate combination of treatment process elements.

8.5.13 *Comment:* What becomes of the surfactant solution after removal of the organics?

Response: The Alternative 4 process requires only limited quantities of surfactant for removal of organics from soil. The surfactant which is introduced to the process will be cycled along with the organic contamination being treated through the final integrated treatment system consisting of the evaporator, catalytic oxidizer, and scrubber/condenser; therefore, no residual contaminated surfactant will result from the Alternative 4 treatment process.

8.6 Alternative 5 - Complete Removal, Storage, and Offsite Disposal

8.6.1 *Comment:* Referring to the "Hanford approach" mandated by the State of Washington, one commenter expressed a preference for complete exhumation of the Pit 9 waste to avoid any further migration and placement into temporary storage for future treatment and disposal. The commenter also supported development and testing of waste treatment technologies to be applied to this exhumed and stored waste.

Response: Alternative 5 under the Pit 9 interim action involves complete exhumation of Pit 9 wastes and placement into temporary storage pending future treatment and disposal. Thus, a large volume of untreated waste (approximately twenty times more than would be involved under Alternative 4 and four times more than would be involved under Alternative 3) would require extensive, long-term management and monitoring until a treatment technology and disposal facility become available. There is a high degree of uncertainty associated with the availability of a disposal facility that would be able to accept these wastes. Alternative 5 thus does not reduce the amount of contamination in Pit 9 materials until the materials are treated and disposed, and it does not treat the principal threats nor reduce the toxicity, mobility, or volume of the waste through treatment until the waste is treated and disposed. Finally, Alternative 5 is the highest cost alternative due to the significantly greater operations and maintenance and long-term storage/offsite disposal costs that would be required.

8.6.2 *Comment:* Commenters expressed support for Alternative 5.

Response: Alternative 5 was not selected as the final remedy for the Pit 9 interim remedial action due to the large volumes of untreated waste that would be generated and require extensive, long-term management and monitoring until appropriate treatment technology and a disposal facility become available. Alternative 5 thus does not reduce the amount of contamination in Pit 9 materials until the materials are treated and disposed, and it does not treat the principal threats nor reduce the toxicity, mobility, or volume of the waste through treatment until the waste is treated and disposed. Finally, Alternative 5 is the highest cost alternative due to the significantly greater operations and maintenance and long-term storage/offsite disposal costs that would be required.

8.6.3 *Comment:* At the Moscow meeting on the revised Proposed Plan for Pit 9, the IDHW representative stated that the use of Alternative 5 would be illegal because of the unique combination of contaminants. If this is so, then why was Alternative 5 proposed as an alternative?

Response: Alternative 5 would require the complete removal of all waste and contaminated soil within Pit 9. The mixed waste would then be placed in interim storage onsite pending final disposal.

Storage and management of the mixed waste in this manner would not be illegal and would be accomplished in accordance with IDAPA §16.01.05008 (40 CFR §§264.172-178, .192-.199) and IDAPA §16.01.05011 (40 CFR §268.41-.43). Alternative 5 was proposed as an alternative because the Agencies considered it to be a viable alternative. Alternative 4 is believed to provide the best balance of the trade-offs among alternatives with respect to the nine CERCLA evaluation criteria.

9. Funding, Budget, and Scheduling of Pit 9 Cleanup

No comments were received.

10. Other Related Concerns

10.1 ***Comment:*** It is necessary to understand the extent of the entire waste problem at the INEL before DOE can put any remedial cleanup actions into context. This includes understanding the nature and radioactive content of the wastes to accurately quantify the risks they pose.

Response: The NCP allows the use of interim actions, where appropriate, to expedite the completion of total site cleanup. Pit 9 was selected for an interim action because accurate records exist indicating the nature and quantity of wastes buried in the pit. Since the types of wastes in Pit 9 are known, the risks they pose are more easily understood and are a good candidate for early treatment. The performance of this interim action will also provide useful information regarding the effectiveness of treatment technologies on other wastes present at the INEL. This information will assist in evaluating cleanup strategies throughout the site.

10.2 ***Comment:*** During remediation, the DOE and their contractors are encouraged to use the local labor force as much as possible in order to reduce the impacts posed by outside labor.

Response: Comment noted.

10.3 ***Comment:*** Comments were received relative to the DOE's Five Year Plan.

Response: These comments have been forwarded to the Project Management Office for the INEL Five Year Plan and will be addressed as part of the Responsiveness Summary for the Five Year Plan.

10.4 ***Comment:*** Comments were received regarding the NOI for the ER&WM EIS at the INEL.

Response: These comments have been forwarded to the Project Management Office for the INEL ER&WM EIS and will be addressed as part of the Responsiveness Summary and published in the EIS Implementation Plan.

10.5 ***Comment:*** One commenter asked for the answers to the commenters' questions which were submitted regarding the original Pit 9 Proposed Plan.

Response: Responses to comments received relative to the original Proposed Plan are addressed in Part II of this Responsiveness Summary.

10.6 ***Comment:*** One commenter requested a copy of the documents on which the ROD is based.

Response: The documents on which the ROD is based are in the Administrative Record. An index identifies these documents. Copies of documents can be obtained by a member of the public by contacting the State of Idaho Oversight Office in Boise, the public libraries in Twin Falls, Idaho Falls, and Pocatello, the University of Idaho library in Moscow, or the Technical Library in Idaho Falls. Electronic copies of all documents in the Administrative Record can be viewed and printed. In addition, the INEL Technical Library in Idaho Falls can be contacted and arrangements made to obtain a copy of any document that is included in the Administrative Record.